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Abstract of the Disclosure

An HF power device in an HF transistor includes a semiconductor layer as a first conductive type, a field area formed in a trench structure on one side of the semiconductor layer, gate electrode formed on a given surface of the semiconductor layer, a channel layer as a second conductive type laterally diffused from the field area to a width containing both sides of the gate electrode, and formed on the surface of the semiconductor layer, a source area as the second conductive type formed within the channel layer between one side of the gate electrode and the field area, a drain area as the second conductive type formed on the surface of the semiconductor layer with a given interval from another side of the gate electrode, a sinker as the first conductive type provided as a column shape of a trench structure for dividing into two source areas by a piercing through the source area and connected to the semiconductor layer, an LDD area as the second conductive type formed on the surface of the semiconductor layer between the drain area and the gate electrode, first metal electrode contacted with the source area divided into two source areas and electrically connected to the semiconductor layer through the sinker, and second metal electrode coupled with the drain area.

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